

THE TREATMENT OF AMOEBI- DYSENTERY

BY

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The majority of the cases recorded in the following paper were treated as in-patients at the Tropical Ward of the Royal Infirmary, Liverpool, their subsequent history after discharge being followed at the Tropical Clinic in the same city. At first it was hoped that much information might be gained by consulting the hospital and other records of the Ministry of Pensions, and through the courtesy of Dr. Finlay and others some four hundred case sheets of amoebic dysentery patients were examined. The results obtained were disappointingly meagre; a few of the cases are included in the tables that follow, but in the majority of instances the observation periods after treatment were too short to test the value of the drug given.

The following definitions were adhered to throughout:—

(1) The first diagnosis of amoebic dysentery was made by the finding of motile amoebae containing red cells in the faeces.

(2) Such a patient was considered to have relapsed after the completion of treatment when diarrhoea again occurred and active amoebae were observed in the stool, blood and mucus being usually, though not always, present.

(3) Cases which after treatment passed *E. histolytica* cysts unaccompanied by motile amoebae were not considered to have relapsed, but all such instances are recorded in the tables under the heading "Remarks."

(4) Once a patient relapsed he was considered as a "fresh case" and any other course of treatment was placed under a separate entry.

While undergoing treatment and for the first fortnight after treatment the stools were usually examined twice weekly (sometimes, as in the case of the emetine periodide series, much oftener) during the remainder of the observation period the examinations averaged about one a fortnight. In every instance, tests for the presence or absence of amoebae in the

stools were made by some member of the Liverpool School of Tropical Medicine.

No attempt has been made to compare the value of any two forms of treatment, as the observation period was not constant. Thus the relapses in treatments I and II were respectively 84 and 75 per cent., but if we fix an arbitrary limit of one month's observation and disregard all relapses occurring at a later date, then the relapses become respectively 53 and 17 per cent.

Note on cases treated with emetine periodide. Willmore (1923) records ninety-one cases of amoebic dysentery treated with emetine periodide of whom forty-eight (52 per cent.) relapsed. His observation period is similar to that used in the present paper, but his definition of a relapse includes persons passing *E. histolytica* cysts after treatment. Applying this definition to the sixteen cases recorded in Table I, treatment No. IX shows that ten of the sixteen cases (62 per cent) relapsed. Various vehicles for administering the drug were tried; formalised gelatin capsules were given in two cases of the acute type and all the motions passed in the subsequent twenty-four hours saved, by this method it was found that in both instances the capsules were passing through intact; even the plain gelatin capsules administered to patients with diarrhoea frequently passed through the gut without dissolving. Rice paper cachets were excellent, but owing to their brittle character sometimes allowed part of their contents to escape. At present we give the drug mixed with a little milk; taken this way it sometimes causes slight nausea but never vomiting. As Willmore's cases were all of the type that had 'proved refractory to all the known standard methods of anti-amoebic treatment' it appears of interest to record two cases of acute dysentery, one which (H.J.C.) had never received previous emetine treatment. Amoebae disappeared from this man's stool within forty-eight hours of the start of treatment and did not reappear during the six weeks he was kept under observation. The other case (C.M.P.) had received only one previous course of emetine (twelve grains emetine hydrochloride given fifteen months previously). During the first six days of treatment this patient continued to pass blood, mucus and amoebae, and at the end of this time his condition was so bad that it was thought advisable to supplement the periodide with four hypodermic injections of emetine hydrochloride. Under this combined treatment the amoebae vanished from the stools within twenty-

TABLE I.

Showing the effect of various forms of treatment on one hundred and thirty-eight cases of amoebic dysentery.

Nature of treatment		Observation period in months after completion of treatment							Total	Remarks
		1	2	3	4	5	6	more than 6		
EXPERIMENT No. I. Showing the effect of treatment with emetine hydrochloride gr. 1 given subcutaneously or intramuscularly for two to six consecutive days.	Relapsing	7	4	...	...	...	...	...	11	One non-relapsing case was passing <i>E. bistolytica</i> cysts four months after completion of treatment. Most of the cases in this series were of the acute type, i.e. passing a large number of blood and mucus motions in the 24 hours.
	Not relapsing	1	...	...	1	...	...	...	2	
EXPERIMENT No. II. Showing the effect of treatment with emetine hydrochloride gr. 1 given subcutaneously or intramuscularly for one to fourteen consecutive days.	Relapsing	5	4	1	3	...	2	6	21	One non-relapsing case was passing <i>E. bistolytica</i> cysts 12 months after completion of treatment. The majority of the cases were of the acute type. Two non-relapsing cases were observed for more than a year.
	Not relapsing	1	2	...	2	...	...	2	7	
EXPERIMENT No. III. Showing the effect of treatment with emetine hydrochloride grs. 3 given by mouth on twelve or thirteen consecutive days.	Relapsing	10	4	3	...	2	...	6	25	Most of these cases were of the chronic type, i.e. passing a daily average of four to six loose stools containing active amoebae but little or no blood or mucus.
	Not relapsing	3	2	1	...	...	1	...	7	
EXPERIMENT No. IV. Showing the effect of treatment with emetine hydrochloride gr. 1 given subcutaneously together with bismuth iodide gr. 1 given by the mouth on twelve consecutive days. (Three cases only).	Relapsing	11	...	2	1	...	1	1	16	Two non-relapsing cases were passing <i>E. bistolytica</i> cysts, respectively, 12 and 20 months after completion of treatment. The cases include about an equal proportion of acute and chronic types. Three non-relapsing cases were observed for 18 months.
	Not Relapsing	1	1	...	...	...	2	4	8	

TABLE I.—continued.

Showing the effect of various forms of treatment on one hundred and thirty-eight cases of amoebic dysentery.

Nature of Treatment		Observation period in months after completion of treatment.							Total	Remarks
		1	2	3	4	5	6	more than 6		
TREATMENT No. V. Showing the effect of treatment with pulv. ipecac. grs. 5, together with pulv. ipecac. Co. grs. 5 given by mouth on thirty consecutive days.	Relapsing	2	...	...	...	...	1	2	5	The majority of these were of the chronic type.
	Not relapsing	...	1	1	...	...	...	1	3	
TREATMENT No. VI. Showing the effect of treatment with pulv. ipecac. grs. 5, together with pulv. ipecac. Co. grs. 5 given by mouth on sixty consecutive days.	Relapsing	2	...	...	...	...	...	...	2	Most of these patients were of the chronic type and repeatedly relapsed on various other forms of treatment.
	Not relapsing	1	...	...	1	...	2	3	7	
TREATMENT No. VII. Showing the effect of treatment with Ravauts paste, three drachms given by mouth on thirty consecutive days.	Relapsing	...	...	...	2	...	...	...	2	These were mild cases of a chronic type.
	Not relapsing	1	...	...	...	...	...	...	1	
TREATMENT No. VIII. Showing the effect of treatment with Ravauts paste, three drachms given by mouth on sixty consecutive days.	Relapsing	3	...	...	...	...	...	1	4	These were mild cases of a chronic type.
	Not relapsing	...	...	...	...	...	1	...	1	
TREATMENT No. IX. Showing the effect of treatment with emetine periodide grs. 6 given by mouth on thirteen to fifteen consecutive days. In one case, which is included amongst the non-relapsing, the emetine periodide was supplemented with four injections of emetine hydrochloride gr. 1.	Relapsing	8	...	...	...	...	...	...	8	Two non-relapsing cases of passing <i>E. histolytica</i> respectively, two and six weeks after the completion of treatment. The cases include an equal proportion of acute and chronic types.
	Not relapsing	1	2	2	2	1	...	...	8	

four hours and no relapse occurred during the five months the patient was kept under observation. Two other cases who had received numerous previous courses of emetine continued to pass motile amoebae throughout the time of treatment. Daily examinations of the remaining twelve cases showed that in two of them motile amoebae persisted for five days of treatment and in the other ten cases vanished after one to three days.

TABLE II.

Showing effects of various treatments not recorded in Table I.

Treatment.	Number of cases treated.	Result of treatment.
Emetine hydrochloride $\frac{1}{2}$ gr. given subcutaneously on two consecutive days.	1	Relapsed after six days.
Emetine hydrochloride $\frac{1}{3}$ gr. given subcutaneously on twenty-two consecutive days.	1	Relapsed seven months later.
Emetine hydrochloride $\frac{1}{3}$ gr. given subcutaneously on thirty consecutive days.	1	Relapsed within a month.
Emetine hydrochloride gr. 1 given subcutaneously together with emetine hydrochloride $\frac{1}{2}$ gr. given by mouth on ten consecutive days.	2	(1) No relapse after three months observation. (2) No relapse after three months observation.
Emetine hydrochloride gr. 1 given subcutaneously on six consecutive days followed by emetine bismuth iodide grs. 3 on twelve consecutive days.	2	(1) No relapse after twelve months observation. (2) Relapsed six months later.
Emetine hydrochloride gr. 1 given subcutaneously on twelve consecutive days followed by emetine bismuth iodide grs. 3 given by mouth on six consecutive days.	1	No relapse after twelve months observation.
Emetine hydrochloride gr. 1 given subcutaneously together with emetine bismuth iodide grs. 3 given by mouth on six consecutive days.	2	(1) No relapse after six weeks observation. (2) Relapsed a week later.
Emetine bismuth iodide gr. 1 given by mouth on twenty-four consecutive days.	1	Relapsed within a month.
"Yatren" 200 ccs. of a 5 per cent. solution given per rectum on ten consecutive days, then six days rest followed by a like dose for one day only.	1	Relapsed within a fortnight.

Note on case treated with Yatren. Mühlens and Menk (1921) recommend ten grammes of Yatren given by the rectum for eight to fourteen days, then no treatment for seven days; repeat the Yatren for three to seven days, allow another resting period of seven days and repeat treatment for three to five days. Owing to the fact that only a limited quantity of the drug was available, the course was shortened to that shown in Table II.

TABLE III.

Showing the distribution in various months of the numbers and percentages of one hundred and one relapses after treatment.

Treatment.	Relapses	Month in which relapse occurred after completion of treatment.						
		1	2	3	4	5	6	More than 6
Emetine hydrochloride gr. 1 given subcutaneously or intramuscularly on two to six consecutive days.	Number	7	4	...	...	...	...	...
	Percentage	63	36	...	...	...	...	...
Emetine hydrochloride gr. 1 given subcutaneously or intramuscularly on ten to fourteen consecutive days.	Number	5	4	1	3	...	2	6
	Percentage	23	19	4	14	...	9	28
Emetine bismuth iodide grs. 3 given by mouth on twelve to thirteen consecutive days.	Number	10	4	3	...	2	...	6
	Percentage	40	16	12	...	8	...	24
Emetine hydrochloride gr. 1 given subcutaneously together with emetine bismuth iodide gr. 1 given by mouth on twelve consecutive days (three cases only ten days).	Number	11	...	2	1	...	1	1
	Percentage	68	...	12	6	...	6	6
Pulv. ipecac. grs. 5 together with pulv. ipecac. Co. grs. 5 given by mouth on thirty consecutive days.	Number	2	...	...	...	...	1	2
	Percentage	40	...	...	...	...	20	40
Pulv. ipecac. grs. 5 together with pulv. ipecac. Co. grs. 5 given by mouth on sixty consecutive days.	Number	2	...	...	...	...	...	...
	Percentage	100	...	...	...	...	...	...
Ravauts paste three drachms given by mouth on thirty consecutive days.	Number	...	...	...	2	...	...	...
	Percentage	...	...	...	100	...	...	...
Ravauts paste three drachms given by mouth on sixty consecutive days.	Number	3	...	...	...	...	...	1
	Percentage	75	...	...	...	...	...	25
Emetine periodide grs. 6 given by mouth on thirteen to fifteen consecutive days (One case supplemented with four injections of emetine hydrochloride gr. 1).	Number	8	...	...	...	...	...	...
	Percentage	100	...	...	...	...	...	...
Various treatments recorded in Table II.	Number	5	...	...	...	...	1	1
	Percentage	71	...	...	...	...	14	14

The patient (A.G.) was a chronic case of about five years' duration who had completely resisted, or else relapsed shortly after, numerous forms of treatment. Before treatment commenced he was passing eight to ten motions a day containing blood, mucus and active amoebae. Twenty-four hours after the first rectal injection the amoebae disappeared and the number of stools were reduced to one or two a day. This condition lasted for twenty-eight days when blood, mucus and amoebae again appeared in the faeces. A further supply of the drug has been obtained and other patients are now under treatment.*

SUMMARY

One hundred and fifty cases of amoebic dysentery were given various forms of treatment and subsequently kept under observation for one to six months or longer; of these one hundred and fifty cases, one hundred and one (66 per cent.) relapsed, the numbers and percentages of the relapses occurring in various months being recorded in the tables. Amongst all the cases treated only six (4 per cent.) were observed to be passing *E. histolytica* cysts after treatment. Sixteen cases were given emetine periodide grs. 6 daily, eight of these (50 per cent.) relapsed within one month; the giving of this drug in gelatin capsules was found to be unsatisfactory as they frequently passed through the gut without dissolving; the periodide when mixed with a little milk and given by the mouth did not produce vomiting. Owing to the inequality of the observation periods no attempt was made to compare the value of any two forms of treatment.

REFERENCES

- MÜHLENS, V. P., and MENK, W. (1921). Behandlungsversuche der chronischen Amöbenruhr mit Yatren. *Münch. Med. Woch.*, Vol. LXVIII, p. 802.
- WILLMORE, J. G. (1923). The treatment of refractory cases of amoebic dysentery. *Trans. Roy. Soc. Trop. Med. and Hyg.* Vol. XVII, p. 13.

* Since the publication of this note another case has relapsed, fourteen days after the completion of treatment. The patient in this instance had received the full course of treatment recommended by Mühlens and Menk.